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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,952	07/24/2001	Duck Chul Hwang	1567.1015/MDS/JGM	3638
49455	7590	01/31/2006	EXAMINER	
STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			WEINER, LAURA S	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/910,952

Applicant(s)

HWANG ET AL.

Examiner

Laura S. Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-40 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 and 18-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 8-17 and 29-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Exhibit A 9 B

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12-9-05 have been fully considered but they are not persuasive.

The claims remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons are discussed below.

The Declaration under Rule 132 filed 6-29-05 and the evidentiary table provided with the January 18, 2005 response has been received. It is agreed that this is one of the common ways to label viscosity but it is not the only way. Viscosity can be described by using units of Poise (P), Centipoises (cP), Millipascal (mPa), Centistokes (CK), Pa, etc. The units of viscosity needed to be present in the specification and the claims when the application was filed. No units were present in the claims or specification. In addition, as seen in Exhibit A, Centipoises, Millipascal and Centistokes are equivalent and therefore, the units does not have to be cP as stated by applicant. Further addition, as seen in Exhibit B, is when the Examiner went on the internet to pull up density, the first chart that was found stated viscosity in units of Centistokes which is not cP units. Therefore, the rejection still remains.

Applicant argues that the Declaration under Rule 132 filed 10-2-03 was filed to declare the non-obvious of claimed ranges in that the range points for solvent

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concentrations of 30% and 70% were envisioned. The declaration has been reviewed.

In regard to the non-obvious of claimed ranges, the rejections over Simon et al.,

Skotheim et al. and Dahn et al. have been withdrawn.

In regard to the solvent concentrations of 30% and 70% being envisioned, it is noted but nowhere in the specification is these concentrations cited. The specification on page 5, [0023], states that "it is preferable to use roughly between 20-80% by volume of the first and second solvent". Other ranges points mentioned are on pages 7-8, Tables 1-2 in which the first solvent is 40% and the second solvent is 60% or the first solvent is 50% and the second solvent is 50%. As stated in the Declaration, on page 2, #6, DuckChul Hwang performed the experiment in August 2003 which the data is shown in the Declaration. It was not until August 2003 that there was recognition to the criticality of moving the data points to 30/70. The specification was filed in 2001. Therefore, the rejection still remains.

In claims 4, 11, 33 and 37, there is no data points for the first solvent being between 20% to 30% by volume. There is no support for claiming 30% by volume as a range point. There is support for 20-80 % by volume or 20-40% by volume. Therefore, the rejection still remains.

In claims 12, 32 and 36, there is no support in the specification for the phrase "the second solvent is between 70% and 80% inclusively by volume of the electrolyte". There is no support for claiming 70% by volume as a range point. There is support for 20-80% by volume or 60-80% by volume. Therefore, the rejection still remains.

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In addition, the identifier label of claims 3 and 15 are incorrect because these claims are not withdrawn but have been examined.

Election/Restrictions

2. Claims 5-7, 18-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12-8-03.

Claim Rejections - 35 USC § 112

3. Claims 2-3; 4, 8-9, 29-30; 10, 31-35; 11; 12-13; 14-17, 36-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 2,4, 10-12, there is no support for defining the viscosity with units of cP (centipoises). It is agreed that this is one of the common ways to label viscosity but it is not the only way. Viscosity can be described by using units of poise, centipoises, Pa, etc. The units of viscosity should have been present in the specification and claims when the application was filed.

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In claims 4, 11, 33 and 37, there is no support in the specification for the phrase "between 20% inclusively and 30% by volume of the electrolyte". There is no support for claiming 30% by volume as a range point. There is support for 20-80 % by volume or 20-40% by volume.

In claims 12, 32 and 36, there is no support in the specification for the phrase "the second solvent is between 70% and 80% inclusively by volume of the electrolyte". There is no support for claiming 70% by volume as a range point. There is support for 20-80% by volume or 60-80% by volume.

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Laura S Weiner
Primary Examiner
Art Unit 1745

January 12, 2006

The following viscosities are based on materials with a specific gravity of one.

Centipoise (CPS) or Millipascal (mPas)	Poise (P)	Centistokes (CKS)	Stokes (S)	Saybolt Universal (SSU)
1	0.01	1	0.01	31
2	0.02	2	0.02	34
4	0.04	4	0.04	38
7	0.07	7	0.07	47
10	0.1	10	0.1	60
15	0.15	15	0.15	80
20	0.2	20	0.2	100
25	0.24	25	0.24	130
30	0.3	30	0.3	160
40	0.4	40	0.4	210
50	0.5	50	0.5	260
60	0.6	60	0.6	320
70	0.7	70	0.7	370
80	0.8	80	0.8	430
90	0.9	90	0.9	480
100	1	100	1	530
120	1.2	120	1.2	580
140	1.4	140	1.4	690
160	1.6	160	1.6	790
180	1.8	180	1.8	900
200	2	200	2	1000
220	2.2	220	2.2	1100
240	2.4	240	2.4	1200
260	2.6	260	2.6	1280
280	2.8	280	2.8	1380
300	3	300	3	1470
320	3.2	320	3.2	1530
340	3.4	340	3.4	1630
360	3.6	360	3.6	1730
380	3.8	380	3.8	1850
400	4	400	4	1950
420	4.2	420	4.2	2050
440	4.4	440	4.4	2160

Exhibit B



Dirty hands?

**Fluid Characteristics Chart / Data, Density, Vapor Pressure and Viscosity / Data**

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Fluid Name	Temperature deg. C	Viscosity Centistokes	Density kg / litre	Vapour Pressure kPa.
Acetaldehyde	20	0.295	0.788	105
Acetaldehyde	30	0.275	0.748	148
Acetic acid	20	1.232	1.048	3.3
Acetic acid anhydride	20	0.88	1.084	1.3
Acetone	20	0.41	0.79	30
Allyl alcohol	20	1.603	0.852	2.4
Allyl alcohol	30	1.36	0.848	4.3
Allyl alcohol	40	1.067	0.844	7.4
Allyl chloride	20	0.354	0.94	30
Aluminium chloride [5% sol]	20	3.54	1.03	2.4
Aluminium nitrate [10% sol]	20	4.54	1.051	2.4
Aluminium sulphate [10% sol]	20	1.34	1.115	2.4
Amyl acetate	20	4.34	0.885	1.3
Aniline	10	6.4	1.03	0.5
Aniline	20	4.37	1.021	0.5
Beer	20	1.8	0.996	2.4
Benzene	20	0.744	0.879	14
Benzene	30	0.65	0.868	20.7
Benzene	40	0.58	0.858	30
Benzene	50	0.54	0.847	42.5
Benzene	60	0.51	0.836	60
Benzyl alcohol	20	5.52	1.045	0.5
Bromine	20	0.34	3.12	48
Butyl acetate	20	0.832	0.885	3.3
Butyl alcohol	20	3.64	0.81	5.4
Butyl alcohol	30	2.85	0.803	8.7
Butyric acid n	0	2.35	0.977	0.5
Butyric acid n	10	1.93	0.967	0.5

Butyric acid n	20	1.61	0.957	0.5
Calcium chloride [25% sol]	20	3.9	1.227	2.4
Calcium chloride [5% sol]	20	1.161	1.037	2.4
Carbolic acid	20	11.3	1.078	0
Carbolic acid	30	9.7	1.069	0
Carbolic acid	40	7.95	1.059	0
Carbolic acid	50	6.15	1.05	0
Carbon disulphide	0	0.33	1.292	22
Carbon disulphide	10	0.316	1.277	33
Carbon disulphide	20	0.298	1.262	48
Carbon tetrachloride	20	0.612	1.595	20.7
Carbon tetrachloride	30	0.525	1.525	30
Castor oil	20	1017	0.96	0
Castor oil	30	580	0.955	0
Castor oil	40	315	0.95	0
Castor oil	50	200	0.945	0
Castor oil	60	115	0.94	0
China wood oil	20	308	0.933	0
China wood oil	30	200	0.926	0
China wood oil	40	120	0.918	0
Chloroform	20	0.38	1.489	30
Chloroform	30	0.38	1.471	43
Chloroform	40	0.37	1.452	62
Chloroform	50	0.36	1.434	87
Chloroform	60	0.35	1.415	120
Cotton seed oil	20	76	0.926	0
Cotton seed oil	30	50	0.921	0
Cotton seed oil	40	35	0.916	0
Cyclohexanol	20	71	0.952	0.5
Cyclohexanone	20	4.9	0.952	0.5
Cylinder oil	20	50000	0.94	0
Dioxan	20	2	1.03	0
Ethyl acetate	20	0.51	0.905	14
Ethyl alcohol	20	1.51	0.772	9
Ethyl alcohol	30	1.32	0.754	14
Ethyl alcohol	40	1.16	0.737	20.7
Ethyl glycol	20	2.3	0.93	0.5
Ethylene glycol	20	18	1.112	0.5

Ethylene glycol	30	16.5	1.104	0.5
Formic acid	20	1.5	1.22	5.4
Formic acid	30	1.38	1.208	8.7
Fuel oil (El) Extra light	20	6	0.85	0
Fuel oil (l) light	20	16.5	0.91	0
Fuel oil (m) medium	20	520	0.99	0
Fuel oil (s) heavy	20	8000	0.99	0
Furfurol	20	1.45	1.16	0.5
Furfurol	30	1.25	1.149	1.5
Gear oil	20	3000	0.905	0
Glycerine	20	1183	1.261	0
Heptane	0	0.74	0.702	.02
Heptane	10	0.66	0.692	.03
Heptane	20	0.6	0.682	.05
Heptane	30	0.55	0.671	.08
Heptane	40	0.51	0.661	0.1
Hexane	0	0.62	0.678	.02
Hexane	10	0.57	0.668	.03
Hexane	20	0.51	0.658	.05
Hexane	30	0.45	0.649	.08
Hexane	40	0.4	0.639	0.1
Kerosine	20	2.4	0.804	0.5
Kerosine	30	1.85	0.78	0.5
Linseed oil	20	47	0.92	0
Machine oil - light	20	47	0.9	0
Machine oil - medium	20	850	0.94	0
Mercury	20	0.119	13.57	0
Methyl acetate	20	0.44	0.959	48
Methyl acetate	30	0.39	0.937	68
Methyl acetate	40	0.35	0.916	95
Methyl alcohol	0	1.04	0.81	13.4
Methyl alcohol	10	0.855	0.801	20
Methyl alcohol	20	0.745	0.792	30
Methyl glycol	20	1.6	0.975	0
Methylene chloride	20	0.9	1.326	72
Milk	20	1.13	1.035	2.4
Nitro benzine	20	1.67	1.203	0.5
Nonane	0	1.35	0.733	0.5

Nonane	10	1.15	0.725	0.5
Nonane	20	1	0.717	0.5
Nonane	30	0.89	0.709	1.5
Nonane	40	0.79	0.701	2.4
Octane	0	1.05	0.719	0.5
Octane	10	0.935	0.711	0.5
Octane	20	0.805	0.702	0.5
Octane	30	0.72	0.694	1.5
Octane	40	0.64	0.685	2.4
Oil SAE 10W - 30	20	130	0.875	0
Oil SAE 10W	20	115	0.87	0
Oil SAE 20W - 20	20	200	0.885	0
Oil SAE 30	20	350	0.89	0
Oil SAE 40	20	900	0.9	0
Oil SAE 50	20	950	0.902	0
Olive oil	20	91.5	0.91	0
Paraffin oil	20	2.4	0.804	0.5
Paraffin oil	30	1.85	0.78	0.5
Pentane	0	0.44	0.646	32
Pentane	10	0.39	0.636	50
Pentane	20	0.36	0.626	72
Pentane	30	0.34	0.616	101
Phenol	20	11.3	1.078	0.5
Phenol	30	9.7	1.069	0.5
Phenol	40	7.95	1.059	1
Phenol	50	6.15	1.05	1.6
Propanol	20	2.8	0.804	2.4
Propanol	30	2.2	0.795	4.3
Propanol	40	1.7	0.786	7.4
Propanol	50	1.4	0.777	12.3
Propionic acid	20	1.13	0.99	0.5
Propylene glycol	20	54	1.038	0
Rapeseed oil	20	178	0.92	0
Sea water	0	1.774	1.028	0.6
Sea water	10	1.346	1.028	1.3
Sea water	100	0.229	0.984	101.3
Sea water	20	1.044	1.025	2.4
Sea water	30	0.822	1.023	4.3
Sea water	40	0.659	1.019	7.4
Sea water	50	0.536	1.015	12.3

Sea water	60	0.442	1.01	19.9
Sea water	70	0.369	1.004	31.2
Sea water	80	0.311	0.998	47.4
Sea water	90	0.265	0.991	70.1
Sodium chloride [25% sol]	20	2.4	1.19	2.4
Sodium hydroxide [20% sol]	20	4	1.226	2.4
Sodium hydroxide [30% sol]	20	10	1.33	2.4
Soya bean oil	20	75	0.926	0
Styrene	20	0.9	0.926	0.5
Sulphuric acid	20	14.6	1.839	2.4
Tetrachloroethane	20	1.1	1.593	1.3
Tetrachloroethylene	20	0.95	1.621	3.3
Toluene	20	0.68	0.867	5.4
Toluene	30	0.61	0.858	8.7
Toluene	40	0.55	0.849	13
Toluene	50	0.5	0.84	19.5
Toluene	60	0.46	0.831	28
Transformer oil	20	30	0.95	0
Trichloroethylene	20	0.96	1.463	14
Water	0	1.788	1	0.6
Water	10	1.307	1	1.3
Water	100	0.295	0.958	101.3
Water	20	1.002	0.998	2.4
Water	30	0.802	0.996	4.3
Water	40	0.662	0.992	7.4
Water	50	0.555	0.988	12.3
Water	60	0.475	0.983	19.9
Water	70	0.414	0.978	31.2
Water	80	0.365	0.972	47.4
Water	90	0.327	0.965	70.1
Xylene-o	20	0.93	0.864	0
Xylene-o	30	0.83	0.855	0
Xylene-o	40	0.74	0.847	0

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